Professional Development:
Quality, Impact and Outcomes

What is your Professional Development Return on Investment (ROI)?

KNOWLEDGE DELIVERY SYSTEMS

Online Professional Development for Educators

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Knowledge Delivery Systems™ (KDS) is a leading provider of online strategic professional development. KDS courses can apply towards state license renewal, Master's degree programs, and career advancement for teachers and administrators at every stage of their career.

KDS courses have been taken by hundreds of thousands of educators. All courses are research-based, practical, topical, available 24/7, and aligned with requirements in all fifty states. KDS courses are taught by the nation's leading experts in their field whose insight and methodologies have had significant impact on teacher effectiveness and student performance. Many of the KDS presenters have published books on key subjects that are important to teacher practice and have advised state and local governments on best practices.

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Executive Summary

“The most powerful strategy school systems have at their disposal to improve teacher effectiveness is professional development.” (Hirsch, 2010)

An average staff development spend of $10,000 could be justified and even celebrated if the results were commensurate with the cost. On the contrary, the huge investments in professional development and induction programs have not improved student achievement, teacher effectiveness, or teacher retention. Certainly, the expenditures are not providing a robust return on investment (ROI) based on existing teacher effectiveness and student achievement.

Effective organizations, public and private, measure multiple, key-performance outcomes and analyze their processes ensuring that both the people and the operations are optimized to improve outcomes and ROI. Strategic management of human capital (SMHC), recruiting, developing, rewarding and retaining effective teachers and principals, is at the heart of transforming practices and building organizational capacity. Critical to SMHC is allowing employees to know and understand the skills required for them to be successful and providing a system of supports to develop those skills as they grow in their careers.

An inclusive system to build support for teachers and principals including differentiated, in-depth professional development in content, pedagogy, and student engagement linked to a career path and cycle of continuous improvement will increase the return on investment. To establish a powerful professional development strategy, district must reconsider existing practices, resources, and investments (Hawley Miles, 2003).

When partnering with educational leaders, it is important to work with organizations that deliver a unique set of strategies focused on quality, impact, and outcomes and tailors a comprehensive, differentiated professional development plan that will transform educational practices. A full range of strategies based on best practices in adult learning takes every participant master essential competencies and demonstrate applications in the classroom that improve results for their students. Knowledge Delivery Systems (KDS) is a trusted partner supporting critical tools to measure impact by gathering usage, perception, reflective journaling, portfolio, observation, and assessment data. Using KDS online strategic professional development, teachers are able to receive 50 hours of in-depth, high-quality professional development (Yoon, et al., 2007) in 8 weeks delivered by national experts and with qualitative and quantitative data to measure impact. All this is delivered at a fraction of the cost to ensure a robust, positive return on your strategic professional development investment.

Measuring Impact: Are districts getting their money's worth?

There are deep-rooted systemic problems in public education; many are linked to money and accountability for outcomes. Money is often expended with minimal tracking of long-term impact, outcomes, or return on investment. Effective organizations, public and private, measure multiple, key-performance outcomes and analyze their processes ensuring that both the people and the operations are optimized to improve outcomes and return on investment (ROI). As a whole, public education lacks a comprehensive, specific, and transparent accountability system. Since No Child Left Behind (NCLB), K-12 education systems measure student achievement in content areas as narrowly defined outcomes. While a start, this is certainly insufficient. Similarly inadequate, teachers are evaluated on a binary satisfactory/unsatisfactory scale with 99% rated satisfactory. In 2011, with the support of from the Gates Foundation ($500 million) and Race to the Top (3.5 billion), states and districts focused their human capital efforts on redesigning teacher evaluations. The refinement and redesign of a targeted evaluation tool is a first step in establishing an accountability system. However, public education has yet to focus attention on a strategic set of processes and supports to build capacity and transform practices (Education Resource Strategies, 2002, 2004; Hawley Miles, 2003).

Studies estimate that 25% of teachers are great teachers enable students to learn and achieve, and all of us have experienced at least one phenomenal teacher in our lives. We all recognize that a truly effective, compassionate, talented teacher is the key to student learning. Bad teachers comprise roughly 10% of the teaching population. If all the "bad" teachers were fired tomorrow, the shift to excellence in teaching practices, the tipping point, would not be sufficient to see transformation. It's striking that school systems decry insufficient numbers of quality teachers who are strong in content, pedagogy, and student engagement. While at the same time, other people propose "firing the whole lot and starting over." Now, is the time to go beyond the rhetoric and demonstrate that we all endorse effective teachers and increased student achievement (Hanushek, 2011).

By labeling teachers as good (25%) vs. bad (10%), we have ignored the 65% in need of support. Some teachers work very hard but lack the knowledge or capacity to challenge children. Some teachers harbor low expectations engaging students in routine, repetitive, simple tasks. That said, teachers do not save their best lesson plans for another day…they do not hide their best teaching strategies for other students, teachers deliver the best classroom instruction they know. However, if they are not a quality teachers, their best might not be good enough. Indeed, teacher quality is strongly correlated with students' academic achievement (Darling-Hammond, 2000; Jordan, Mendro, & Weerasinghe, 1997; Rice, 2003; Rivken, Hanushek, & Kain, 2005; Nye, Konstantopoulos, & Hedges, 2004; Wright, Horn, & Sanders, 1997; Reeves, 2011).

Strategic management of human capital (SMHC), recruiting, developing, rewarding and retaining effective teachers and principals, is at the heart of transforming practices and building organizational capacity. Put simply, SMHC is the tactical recruitment, induction, mentoring, ongoing development, evaluation and compensation tied to a set of competencies. Allowing employees to know and understand the skills required for them to be successful and providing a system of supports to help them develop those skills as they grow in their careers are critcial components of SMHC. As Hirsh observes, "The most powerful strategy school systems have at their disposal to improve teacher effectiveness is professional development." (Hirsh, 2010)

However, good professional development is not the same as a good professional development strategy. A good professional development strategy is the nucleus of a good district strategy for school improvement and increased achievement. Perhaps the most important strategy is the stringent monitoring of professional development quality and impact (Hawley Miles, 2003). It is no longer sufficient to report professional development impact by displaying a sign-in sheet with 100 names. When measuring the impact of professional development, districts should look at short- and long-term outcomes. The short-term impacts should be reflected by a change in teachers' content knowledge base, instructional practices, and the overall experience of the professional development. In order to gauge teachers' knowledge base pre, post, formative, and summative assessments should be used. Additionally, rich qualitative information in the form of reflective journaling, collegial discussions, trainer interactions, and portfolios should be used to monitor the change in teacher perception, understanding, and professional vocabulary. The learning experience should be examined to target and improve delivery and access (Killion, 2006). In the long term, quality professional development should increase teacher capacity, transform practice, and increase student achievement.

KDS Model for Measuring Professional Development Impact

Knowledge Base	Reflective Practices	Instructional Practices	Learning Exerience
• Assessments	• Journaling	• Classroom observations	• Surveys
• Pre & post - skills test	• Discussion forums	• Blended-model activites	• Access to PD
• Units tests	• Teacher interactions	• Coaching	• Completion rates
• Mid-terms and finals	• e-Portfolio		

An inclusive support system to build capacity for teachers and principals must include differentiated, in-depth professional development based on a diagnostic review of teacher skills and competencies, delivered in time to impact student achievement from quarter to quarter and year to year. Delivery of quality professional development in content, pedagogy, and student engagement targeted to established deficiencies will establish a cycle of continuous improvement and increase the return on investment. Creating a powerful professional development plan involves reconsidering practices and investments that touch on every aspect of school and district organization — from teacher salaries, responsibilities, and job structure to the details of the district's accountability system. (Hawley Miles, 2003)

Hidden Costs: What does professional development really cost?

If we are able to agree that teachers are the most important factor in improving student learning, that a strong system tracking impact, processes, and outcomes is required to ensure a return on investment, and that teachers want children to succeed - it follows that public education must reexamine the processes for fostering teacher excellence and effectiveness. Therefore, we must agree that increasing the knowledge, capacity, and ability of teachers to engage children in meaningful high-level learning that results in increased achievement will transform pubic education

The real cost of professional development at the district and state level is seldom known. While line items specifically listing staff development total $3,000 - $5,000 annually per teacher, a holistic look at expenditures and the real cost of professional development increases that number quickly. Most staff development studies estimate staff development costs of $8,000 - $12,000 per year per teacher. In order to calculate the real cost of professional development, you must consider several variables including:

• Salaries and benefits for central office PD staff (including staff who work in district PD centers and similar operating units) who devote all or part of their time to managing and/or providing teacher PD (e.g., PD coordinators, supervisors, curriculum specialists, program managers, human resource directors and staff)
• Salaries and benefits for school-based PD staff and school staff who devote at least part of their time to responsibilities related to teacher PD (e.g., resource teachers, coaches, mentors, content-area specialists, department chairpersons, team leaders)
• Fees and expenses for external consultants who provide PD services and activities for teachers
• Tuition for teachers who enroll in college and university courses (including community college courses), including reimbursements to teachers and direct payments to institutions of higher education
• Expenditures for district facilities and other facilities used primarily for PD (e.g., rent, leases, maintenance, utilities)
• Expenditures for substitute teachers
• Teacher stipends
• Transportation, meals and lodging
• Salaries to support teacher participation in PD, including district PD days
• Expenditures for supplies and equipment used for PD activities (e.g., textbooks and other print materials, computers and other hardware, software, laboratory equipment, laboratory fees)

Considering all costs - the hidden costs, the real costs - the annual expenditures are nearly $1 billion to train the 80,000 teachers in New York City Schools. This number is close to $80 million per year for large urban districts such as Baltimore, MD, Albuquerque, NM, and Austin, TX (Table 1). A review of the Race To The Top (RTTT) states shows an even larger expense. Extrapolating the annual expenditure by teacher to the total number of teachers per state projected over a ten-year period those twelve states will spend $138.6 billion dollars on professional development between 2010 and 2020 (Table 2). In the words of Senator Evert Dirksen, “A billion here, a billion there, and pretty soon you’re talking about **real money.**”

Online strategic professional development engages educators in high-quality learning by adhering to best practices in adult learning and promotes differentiated coursework while enabling teachers to engage collaboratively with colleagues that share their learning needs. By delivering effective, differentiated online professional development, districts leverage the powerful advantages of technology and the online learning environment while realizing cost savings, scale critical instructional practices, differentiating teacher learning, advance strategic human capital management, maintaining intentional fidelity, and transforming broken systems into working systems.

District Size	PD Annual Spend *	Educators	Avg Per Teacher
1,000,000	$ 1,000,000,000	80,000	$12,500
700,000	$500,000,000	38,000	$13,158
400,000	$ 440,000,000	21,000	$20,952
200,000	$ 170,000,000	10,000	$17,000
84,000	$ 90,000,000	10,281	$8,754
50,000	$ 40,000,000	3,500	$11,429

Will the RTTT states see an increase in teachers' effectiveness and student achievement equivalent with the dollars expended? Will these dollars drive the educational transformation required to bring public education to global competitiveness? An average per teacher staff development expenditure of $10,000 could be justified and even celebrated if the results were commensurate with the cost. Certainly, the expenditures are not providing a robust ROI based on existing teacher effectiveness and student achievement.

State	Teachers	Annual Spend	5 Year Spend	10 Year Spend
FL	270,000	$2.7 Billion	$13.5 Billion	$27 Billion
NY	280,600	$2.8 Billion	$14 Billion	$28 Billion
GA	165,000	$1.7 Billion	$8.5 Billion	$17 Billion
TN	96,500	$1 Billion	$5 Billion	$10 Billion
DE	12,400	$120 Million	$600 Million	$1.2 Billion
MA	96,500	$1 Billion	$5 Billion	$10 Billion
RI	15,200	$152,000	$750,000	$1.5 Billion
MD	86,800	$861,000	$4.3 Billion	$8.6 Billion
HI	18,600	$186,000	$930 Million	$1.9 Billion
NC	144,700	$1.5 Billion	$7.5 Billion	$15 Billion
OH	183,200	$1.8 Billion	$9.4 Billion	$18 Billion
DC	4,000	$40 Million	$200 Million	$400 Million
Totals	**1.4 million**	**$13.6 Billion**	**$69.3 Billion**	**$138.6 Billion**

Teacher Attrition: Is a 30% loss of your Investment acceptable?

Most school districts invest significant resources in new teacher induction, but rarely incorporate a career development strategy and link induction to improvement efforts. In large urban districts, teacher attrition impacts a massive number of teachers (Shockley, Guglielmino and Watlington, 2006; Marvel, et. al., 2007). In 2005, the attrition rate in Clark County School District, Nevada was 7.6% (Table 3). With a total teaching population of 15,985 this equates to more than one thousand teachers leaving the district in one year (Diaz, Campbell, 2008).

School District	2005 Attrition Rate	Total Number of Teachers	Number of Teachers Leaving
Broward County Schools	7.3 %	15,979	1,167
Clark County Schools	7.6 %	15,985	1,035
Chicago Public Schools	7.9 %	27,039	3,056
U.S. National	8.4%		

These numbers represent teachers who are leaving the profession, leaving to teach in another district, and retiring. However, the largest percentage leaving the profession has three or less years in the classroom. To understand the reasons for leaving teaching, a survey sponsored by the California State University system (CSU) identified three categories of teacher rationales for leaving: (1) inadequate support at the local and district level (too little assistance and materials provided), (2) unreliable bureaucracy (too many meetings, insensible policies and procedures), and (3) salary (Futernick, 2007). Despite large investments, induction programs are often ill conceived and delivered in isolation rather than as a system of differentiated professional support and career development. Induction programs, isolated from the larger goal of career development, do not increase teacher retention. Consequently, they result in a huge loss of invested dollars. Consider the impact of attrition on a mid-size urban district of 5,000 teachers with a turnover of 12.5% (625 teachers). Accounting for the cost of recruiting, hiring, processing and training a new teacher, the cost of attrition for that mid-sized district would be:

• Central Office Cost - $5.75 million
• Schools Costs - (100 schools) - $7 million
• Total Cost of Turnover - $12.75 million (NCTAF, 2007)

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Year Teaching	District PD Investment	Attrition Rate
1	$ 10,000	-
2	$ 20,000	-
3	$ 30,000	30 %
5	$ 50,000	50 %
10	$ 100,000	50 %

Despite huge investments in professional development and induction programs, student achievement has not improved, teacher effectiveness has not improved, and teacher retention has not improved. An inclusive system to build support for teachers and principals including differentiated, in-depth professional development in content, pedagogy, and student engagement linked to a career path and cycle of continuous improvement will increase the return on investment. Establishing a powerful professional development strategy, District must reconsider existing practices, resources, and investments (Hawley Miles, 2003).

Quality Professional Development: What does it look like?

Effective professional development is defined as that which leads to improvements in teacher knowledge, practice, or in student learning outcomes (Jaquith, Mindich, Wei, Darling-Hammond, 2010). The REL Southwest's Reviewing The Evidence On How Teacher Professional Development Affects Student Achievement (2007) reviewed more than 1,300 studies identified as potentially addressing the effect of teacher professional development on student achievement in three key content areas. They assert that only nine met the What Works Clearinghouse evidence standards, attesting to the paucity of rigorous studies that directly examine this link. This meta-analysis found that teachers who receive substantial professional development—**an average of 49 hours—boost students' achievement.** (Institute of Education Sciences, 2007). To build capacity, strengthen content and pedagogy knowledge, transform practice, and increase student achievement, effective professional development must be:

• Strategically focused on specific curriculum content and pedagogies needed to teach that content effectively
• Designed to engage teachers in active, collegial learning that allows them to try out ideas in the classroom and make sense of what they are learning in meaningful ways
• Presented in an intensive, sustained, and continuous manner over time (with an average of about 50 hours or more on a given topic associated with changes in practices that produce gains in student achievement)
• Linked to analysis of teaching and student learning, including formative use of assessment data
• Supported by coaching, modeling, observation, and feedback
• Connected to teachers' collaborative work in school-based professional learning communities and learning teams
• Integrated with other school-level policies or reforms, so that there is a coherent approach to curriculum, instruction, assessments, and professional development (Wei et al., 2009)

Online Professional Development: Is it part of a great professional development strategy?

To boost access and reduce costs while ensuring quality, scalability, fidelity, and alignment, there has been increased use of online professional development in large urban districts. A set of randomized trials provided a body of evidence that a series of online professional development courses targeting specific student learning needs can have positive effects on teacher knowledge and instructional practices. Importantly, this study indicates that teachers' participation in a coordinated series of online professional development courses have effects that translate into improvements in targeted student outcomes. The findings from this study support the continued implementation of online professional development. Online classes are not only as challenging as traditional courses, but if designed the right way, they can boost educators' collaborative, multitasking and technology skills—more so than their in-person counterparts, says Dr. Mega Subramaniam, assistant professor in the college of information studies at the University of Maryland (A. Moses, NEA Member Benefits Site).

When considering ROI, online strategic professional development has clear benefits and costs savings while fostering scalability, content quality, engagement, differentiation, and alignment to the overall district improvement goals. Cost factors include:

• Reduction in travel expense
• Minimize teacher time out of the classroom
• Training can take place anytime requiring little or no facilities coordination
• 60% faster learning (Hambrecht, 2001)
• 25-60% Increased retention of material (The Research Institute of America)
• Less remediation time for students; as teacher effectiveness improves
• Personalized support delivered at a lower cost

Online professional development engages educators in high-quality learning by adhering to best practices in adult learning. Online professional development promotes differentiated coursework while enabling teachers to engage collaboratively with colleagues that share their learning needs. By delivering effective, differentiated , and online strategic professional development, districts leverage the powerful advantages of technology and the online learning environment, realizing costs savings, scaling critical instructional practices, differentiating teacher learning, advancing strategic human capital management, maintaining intentional fidelity, and transforming broken systems into systems that work.

KDS Online Strategic Professional Development: Quality, Impact, and Outcomes

Clearly districts invest significant resources in professional development of teachers but the investment is not structured for maximum effect. Investment varies widely across schools and programs in ways that do not dependably match the varying needs of students, teachers, coaches, principals, and schools. There is little guidance and no accountability for the effective use of this important investment (Hawley Miles, 2003).

When partnering with educational leaders, Knowledge Delivery Systems (KDS) brings a unique set of strategies focused on quality, impact, and outcomes. KDS tailors a comprehensive, differentiated professional development plan that will transform educational practices. In each case, partners leverage the approach of a blended model, one that uses the full range of effective, research-based strategies, supported by online, face-to-face and blended interactions. Similarly, a full range of strategies based on best practices in adult learning helps every participant master essential competencies and demonstrate applications in the classroom that improve results for their students. To measure impact, KDS supports critical tools to gather usage, perception, reflective journaling, portfolio, observation, and assessment data. KDS provides all of this to ensure a robust, positive return on your professional development investment.

Providing 50 hours of training to 5,000 teachers in a traditional face-to-face model requires 6-8 years and $4.5 million dollars to accomplish with questionable or unknown impact. However, using KDS online strategies, teachers can receive 50 hours of in-depth, high-quality professional development in 8 weeks delivered by national experts with a consistent message and with data tools to measure impact. All this is delivered at a fraction of the cost (Created by Bruce Haslam and Beth Sinclair at Policy Studies Associates).

• Training 5,000 teachers	• Training 5,000 teachers
• Hours of PD: 50 hours	• Hours of PD: 50 hours
• Time: 6 – 8 years	• Time: 8 weeks
• Cost: $4.5 million	• Cost: $765,000
• Impact: UNKNOWN	• Impact measured and known

To transform public education, to build teacher capacity, KDS structures strategic professional development for maximum effect and to ensure the following:

• Less time out of the classroom
• More efficient use of dollars
• Strengthened processes and support
• Virtual learning communities
• Increased teacher capacity
• Increased teacher retention
• Increased teacher effectiveness
• Increased student achievement – the ultimate goal!

BIBLIOGRAPHY

American Productivity and Quality Center (2010). What Lies Beneath: Waste. White Paper

Blank, R., de las Alas, N. (2009). Meta Analysis Study of the Effects of Teacher Professional Development with A Math or Science Content Focus on Improving Teaching and Learning. CCSSO.

Campbell, B., Diaz, J. (December 2008). Clark County School District Teacher Attrition Information. Clark County School District.

Darling-Hammond, L. Teacher Quality and Student Achievement. education policy analysis archives, North America, 8, jan. 2000. Available at: http://epaa.asu.edu/ojs/article/view/392. Date accessed: May 03, 2011.

Darling-Hammond, L., & MacDonald, M. (2000). Where there is learning there is hope: The preparation of teachers at the Bank Street College of Education. In L. Darling-Hammond (Ed.), Studies of excellence in teacher education: Preparation at the graduate level (pp. 1-95). Washington, DC: American Association of Colleges for Teacher Education.

Educational Resource Strategies. (September 2004). Becoming a Capable and Accountable System: A Review of Professional Development and Curriculum in the Baltimore City Public School System. , Providence, RI: Brown University.

Emmons, C. (April 2011). No Teacher Is an Island. Edweek, 44,36.

Fermanich, M., Hawley Miles, K., Hornbeck, M. (August 2002). Chicago Public Schools - Professional Development Project. Educational Resource Strategies.

Friedman, T. L. (2005). The World is Flat: A Brief History of the Twenty-First Century. NY, NY: Picador, Farrar, Straus, and Giroux.

Hanushek, E. (April 2011). Recognizing The Value of Good Teachers. Edweek, 34-35.

Hawley Miles, K. (Summer 2003). The Big Picture. National Staff Development Council, VOL. 24, NO. 3, 34-37.

Hambrecht, W.R. (September 2001). E-Learning: a White Paper From IsoDynamic. Retrieved May 6, 2011 from http://www.isodynamic.com/web/pdf/IsoDynamic_elearning_white_paper.pdf

Hirsch, S. (2010) Building Professional Development to Support New Student Assessment Systems. Paper

Jaquith, A., Mindich, D., Wei, R.C., Darling-Hammond, L. (2010). Teacher professional learning in the United States: Case studies of state policies and strategies. Oxford, OH: Learning Forward.

BIBLIOGRAPHY

Jordan, H. R., Mendro, R., & Weerasinghe, D. (1997). Teacher effects on longitudinal student achievement: A preliminary report on research on teacher effectiveness. Paper presented at the National Evaluation Institute, Indianapolis, IN.

Killion, J. (2006). Evaluating the Impact of Professional Development of Professional Development in Eight Steps, Evaluation Exchange Vol. XI, No. 4.

Moses, A. (2011). 5 Myths of Online Professional Development—Busted. Retrieved May 5, 2011 from NEA Member Benefits Site

National Staff Development Council. (2009). Professional learning in the learning profession: A status report on teacher development in the United States and abroad. http://www.nsdc.org/stateproflearning.cfm

Nye, B., Konstantopoulos, S., & Hedges, L. V. (2004). How large are teacher effects? Educational Evaluation and Policy Analysis, 26(3), 237–257. Retrieved December 6, 2007, from http://www.sesp.northwestern.edu/docs/publications/169468047044fcbd1360b55.pdf

Reeves, D. (2011). Getting Accountability Right, Session AASA Conference.

Rivken, S. G., Hanushek, E. A., & Kain, J. F. (2005). Teachers, schools, and academic achievement. Econometrica, 73(2), 417-458.

Shockley, R., Guglielmino, P., &Watlington, E. (2006). The costs of teacher attrition. Paper presented at the International Congress for School Effectiveness and Improvement, Fort Lauderdale, FL, January 5, 2006.

State Council For Educator Effectiveness. (April 2011). Report and Recommendations. Submitted to Colorado State board of Education

State Educational Technology Directors Association (2008). Empowering teachers: A professional and collaborative approach. http://www.setda.org/web/guest/2020/professional-development

Wright, S. P., Horn, S. P., & Sanders, W.L. (1997). Teacher and classroom context effects on student achievement: Implications for teacher evaluation. Journal of Personnel Evaluation in Education, (11), 57–67. http://www.sas.com/govedu/edu/teacher_eval.pdf

Yoon, K. S., Duncan, T., Lee, S. W.-Y., Scarloss, B., & Shapley, K. (2007). Reviewing the evidence on how teacher professional development affects student achievement (Issues & Answers Report, REL 2007–No. 033). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southwest.
Retrieved from http://ies.ed.gov/ncee/edlabs